

IN THE CLAIMS

1. (Original) A method of inflating and deflating a catheter having an expandable membrane, the method comprising the steps of:

controllably inflating the expandable membrane to a target pressure or volume;
ablating a desired tissue region while maintaining the target pressure or volume of the expandable membrane; and
controllably deflating the expandable membrane.

2. (Original) The method of claim 1, further comprising keeping the expandable membrane inflated until a region proximate the expandable membrane reaches a predetermined temperature range.

3. (Original) The method of claim 1, wherein the steps of controllably inflating the expandable membrane to a target pressure or volume is performed by inflation/deflation control means located within a first console.

4. (Original) The method of claim 3, wherein the inflation/deflation control means is a Proportional Integral Derivative controller.

5. (Original) The method of claim 4, wherein the inflation/deflation control means further includes a pressure switch that controls an on/off valve.

6. (Original) The method of claim 1, wherein, if the target pressure or volume is not reached, further comprising the step of re-inflating the expandable membrane in order to reach the target pressure or volume.

7. (Original) The method of claim 6, wherein the step of re-inflating the expandable membrane is performed by a pressurized coolant source within an intermediary console located between the first console and the catheter.

8. (Original) The method of claim 7, wherein the pressurized coolant source is a fixed volume reservoir located within the first console.

9. (Original) The method of claim 1, wherein the step of ablating the desired tissue region is part of a cryoablation process.

10. (Original) The method of claim 1, wherein the step of ablating the desired tissue region is part of a radio frequency ablation process.

11. (Original) A method for inflating and deflating a catheter having an expandable membrane, the catheter being part of a catheter system including a first console, a catheter, and an umbilical system coupling the first console to the catheter, the method comprising the steps of:

evacuating air from the expandable membrane by creating a vacuum in the expandable membrane;

controllably inflating the expandable membrane proximate a desired tissue region, the expandable membrane being inflated to a target pressure or volume in order to provide sufficient mechanical force against the desired tissue region;

ablating the desired tissue region while maintaining the expandable membrane at the target pressure or volume; and

controllably deflating the expandable membrane.

CLAIMS 12-31. CANCELLED